

REMARKS

Claims 1, 3 and 5 have been amended. Claim 10 has been added, with support provided on page 2, lines 32-33 of the original specification. No new matter has been added.

Claim Rejections

A. 35 U.S.C. 112 Rejection of Claim 5

Claim 5 stands rejected under 35 U.S.C. 112, second paragraph.

Claim 5 has been amended by deleting the word "approximate". The rejection under 35 U.S.C. 112 is therefore overcome.

B. 35 U.S.C. 102(e) Rejection of Claim 1

Claim 1 stands rejected under 35 U.S.C. 102(e) as being anticipated by Onda, U.S. patent 5,077,811 (hereinafter, "Onda"). The rejection is respectfully traversed.

Claim 1 has been amended to clarify certain aspects of the invention. The method is used for detecting orientation of images in a set of captured images representing a similar scene, and a reference image with a known orientation is chosen from this set of captured images for use in detecting orientation of at least one other image in that same set of images. In other words, the reference image and the other image whose orientation is to be determined belong to the same set of captured images representing a similar scene. Support for this amendment can be found at least on p.2, lines 7-14 of Applicants' original specification. No new matter has been added.

Onda teaches a method that is different from the claimed invention. Specifically, Onda teaches, e.g., in its Abstract, an image processing system with an image reading device for reading an image to produce image signals, and detecting orientation of a character image (as distinct from a picture image). For detecting image orientation, Onda teaches that "*[a] first predetermined number of character images may be selected for the detection of the orientation. A second predetermined number of reference characters are provided for comparison with the character images. The character images are sequentially compared with the reference characters to obtain matching data*" (Onda, col. 2, line 66 to col. 3, line 5).

However, there is no teaching that the reference characters are taken from among the first number of characters images that are read or scanned. In other words, there is no showing that Onda's first number of character images and the second number of reference characters belong to the same set of captured images representing a similar scene, as provided in Applicants' claim 1.

Instead, Onda's character images are compared with certain reference characters to obtain matching data based on the number of reference points for a specific character (e.g., see Onda's col. 4, lines 43-57 and FIG. 2(a)-(b), discussing reference points A1-A6 for characterizing orientations of the character "A".) It appears that the reference points for the characters are stored in a database prior to detecting image orientation, and a scanned character is compared with pre-recorded characters.

Furthermore, Onda teaches that "*the image signals for the first scanned character is compared with all of the reference characters*" and matching data from the comparison is stored in main memory (Onda, col. 4, lines 58-61). Thus, Onda teaches comparing one character with many reference characters, which is different from Applicants' claim 1, in which a reference image is chosen from the set of captured images, and orientation of at least one other image in that set of images is detected as a function of the orientation of that reference image.

By allowing image orientation to be detected based on the orientation of a reference image from the set of captured images, Applicants' method does not require a database to be established, and thus, provide a simpler approach compared to that of Onda's.

Since Onda does not teach Applicants' claimed features of: "*choosing a reference image from the set of captured images, the reference image having an orientation that is known a priori; and detecting orientation of at least one other image of said set of captured images representing the similar scene as a function of the orientation of said reference image,*" Applicants submit that claim 1 is not anticipated by the teaching of Onda.

Withdrawal of the rejection of claim 1 is respectfully requested.

C. 35 U.S.C. 103 Rejection of Claims 2-8

Claims 2-8 stand rejected under 35 U.S.C. 103 as unpatentable over Onda in view of US 6,744,537 to Chiba et al. (hereinafter, "Chiba"). This rejection is respectfully traversed.

As discussed above, Onda fails to teach the method recited in the amended claim 1. Since there is no showing that Chiba teaches the features in claim 1 that are missing in Onda, the combination of Onda and Chiba would not render obvious Applicant' claims 2-8.

Furthermore, Applicants submit that the combination of Onda and Chiba is not proper because Chiba teaches an approach of correcting an orientation of an image that is different from that of Onda. For example, the image direction correction approach in Chiba appears to be a part of a character recognition process. Chiba teaches, in col. 71, lines 24-35 and FIG. 49, that correction of the orientation of an image is done based on the orientation of an image reader. Specifically, orientation for image BG1 is corrected according to whether the image reader 1300 is oriented horizontally or vertically.

Onda, on the other hand, corrects orientation of a character image based on image signals by comparing character image to reference points for the character. Given the vastly different approaches of Onda and Chiba, it is not clear as to how the specifics of Onda and Chiba can logically be combined to provide a workable method incorporating all the features of Applicants' claimed invention.

For example, regarding Applicants' claim 2, it is not clear as to how the distance computation in Chiba for recognizing a final candidate as an input character (e.g., Chiba, col. 80, lines 24-26) can be combined within the framework of Onda's correction of character image orientation. Thus, Applicants submit that there is insufficient basis for a proper combination of Onda and Chiba that would render claim 2 obvious.

Reconsideration of the rejection of claims 2-8 is respectfully requested.

New Claim

Claim 10 has been added recite that the subimages have the same width to height ratio. Since claim 10 ultimately depends from claim 1, Applicants submit that claim 10 is patentable over the cited references for the same reasons set forth above.

Conclusion

In view of the foregoing, Applicants respectfully solicit entry of this amendment and allowance of the claims.

Respectfully submitted,
Jurgen Stauder et al.

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/Wan Yee Cheung/
Wan Yee Cheung
Attorney for Applicants
Reg. No. 42,410
Phone (609) 734-6834

U.S. Patent Operations
Thomson Licensing LLC
P.O. Box 5312
Princeton, New Jersey 08543-5312